

INTRINSICALLY SAFE SENSOR SIGNAL PROCESSING CIRCUIT

ABSTRACT OF THE DISCLOSURE

5 An intrinsically safe sensor signal processing circuit permits lower
cost installation and eliminates potential hazard. In the combination of a
sensor which measures a physical value as a process variable in a
hazardous environment and a safety barrier which is mounted in a non-
hazardous environment, an intrinsically safe sensor signal processing
circuit features a safety barrier for ease of mounting, wherein current
10 limiting resistances are connected in series with a sensor and these
resistances are also connected to either an output or an inverting input of
operational amplifiers that are respectively used as a driver or a feeder of a
sensor signal. Alternatively, the safety barrier can adopt blocking
capacitors instead of current limiting resistors.